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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,615	07/17/2003	Hiroshi Oyama	116597	9663

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EXAMINER	
PRICE, NATHAN E	

ART UNIT	PAPER NUMBER
2194	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/620,615	OYAMA ET AL.	
	Examiner	Art Unit	
	NATHAN PRICE	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 December 2007 and 29 February 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6 and 8-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 8-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1 – 6 and 8 – 14 are pending.

2. This Office Action is in response to communications received 19 December 2007 and 29 February 2008. Previous objections and rejections not included in this Office Action have been withdrawn.

Continued Examination Under 37 CFR 1.114

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on 19 December 2007 and 29 February 2008 have been entered.

Response to Arguments

4. Applicant's arguments filed 29 February 2008 have been fully considered but they are not persuasive.

5. Applicant argues the references fail to teach realizing an interface using a different interface than that of the server. Examiner respectfully disagrees. Although

the intermediate interface of the IDLs provides a common interface definition, the programming language-specific mappings are different and independent (col. 3 lines 20 – 30; col. 4 lines 8 – 18). The language-specific details of one object are hidden from other objects. Therefore, for a given object, the intermediate interface is realized independent of the IDL or language-specific mappings of other objects.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1 – 6 and 8 – 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schofield (US 6,308,225 B1) in view of Silberschatz (see PTO-892 mailed 20 March 2007 and 20 June 2007).

7. As to claim 1, Schofield teaches an interface method for a logical circuit comprising a logical operation element, comprising:

defining an interface, using a first interface definition language which is partly common to a second interface definition language directed to a software object, wherein the first interface definition language has means for defining a plurality of functions, each function having a function name and a function return

value, and at least one function having at least one function argument [col. 2 lines 45 - 65; col. 3 lines 12 - 32, 54 - 65; col. 5 lines 6 - 13; col. 8 lines 12 - 22];

providing at least means for inputting for identifying the function name defined by the first interface definition language for a server interface circuit in order to realize the interface among the means for inputting for identifying the function name defined by the first interface definition language, means for inputting and outputting the argument, and means for outputting the return value [col. 2 lines 45 - 65; col. 3 line 54 - col. 4 line 7; col. 8 lines 12 - 22];

determining whether the function is the at least one function having the at least one function argument [col. 2 lines 45 - 65; col. 3 line 54 - col. 4 line 7; col. 8 lines 12 - 22; col. 12 lines 6 - 43]; and

performing at least one of inputting the function argument, outputting the function argument and outputting the function return value [col. 2 lines 45 - 65; col. 3 line 54 - col. 4 line 7; col. 8 lines 12 - 22; col. 12 lines 6 - 43],

wherein the software object is capable of realizing the interface independently of the server interface circuit by using only the second interface definition language [col. 3 lines 20 – 30; col. 4 lines 8 – 18].

8. Schofield fails to specifically teach defining a hardware interface. However, Silberschatz teaches a server process interacting with a device for a client process [page 470 ¶ 1 – 3] and that objects include hardware objects [page 569 ¶ 1]. This results in the server process acting as an interface to the hardware. It would have been

obvious to one of ordinary skill in the art at the time Applicant's invention was made to combine these teachings because both teach use of client-server systems and Silberschatz provides additional details about what can be represented as an object and how clients and other software can interface with various objects in a computer system.

9. As to claim 2, Schofield teaches an interface method for a logical circuit comprising a logical operation element, comprising:

defining an interface, using a first interface definition language which is partly common to a second interface definition language directed to a software object, wherein the first interface definition language has means for defining a plurality of functions, each function having a function name and a function return value, and at least one function having at least one function argument [col. 2 lines 45 - 65; col. 3 lines 12 - 32, 54 - 65; col. 5 lines 6 - 13; col. 8 lines 12 - 22];

providing at least means for inputting for identifying the function name defined by the first interface definition language for a client interface circuit in order to realize the interface among the means for outputting for identifying the function name defined by the first interface definition language, means for inputting and outputting the argument, and means for inputting the return value [col. 2 lines 45 - 65; col. 3 line 54 - col. 4 line 7; col. 8 lines 12 - 22];

determining whether the function is the at least one function having the at least one function argument [col. 2 lines 45 - 65; col. 3 line 54 - col. 4 line 7; col. 8 lines 12 - 22; col. 12 lines 6 - 43]; and

performing at least one of inputting the function argument, outputting the function argument and outputting the function return value [col. 2 lines 45 - 65; col. 3 line 54 - col. 4 line 7; col. 8 lines 12 - 22; col. 12 lines 6 - 43],

wherein the software object is capable of realizing the interface independently of the server interface circuit by using only the second interface definition language [col. 3 lines 20 – 30; col. 4 lines 8 – 18].

10. Schofield fails to specifically teach defining a hardware interface. However, Silberschatz teaches a server process interacting with a device for a client process [page 470 ¶ 1 – 3] and that objects include hardware objects [page 569 ¶ 1]. This results in the server process acting as an interface to the hardware.

11. As to claim 3, Schofield teaches an interface method for a logical circuit comprising a logical operation element, comprising:

defining an interface, using a first interface definition language which is partly common to a second interface definition language directed to a software object, wherein the first interface definition language has means for defining a plurality of functions, each function having a function name and a function return value, and at least one function having at least one function argument [col. 2 lines 45 - 65; col. 3 lines 12 - 32, 54 - 65; col. 5 lines 6 - 13; col. 8 lines 12 - 22] wherein the logical circuit comprises:

a server logical circuit, as a server interface circuit for realizing the interface, having at least means for inputting for identifying the function name defined by

the first interface definition language among the means for inputting for identifying the function name defined by the first interface definition language, means for inputting and outputting the argument, and means for outputting the return value [col. 2 lines 45 - 65; col. 3 line 54 - col. 4 line 7; col. 8 lines 12 - 22], and

a client logical circuit, as a client interface circuit for realizing the interface, having at least means for outputting for identifying the function name defined by the first interface definition language among the means for outputting for identifying the function name defined by the first interface definition language, means for inputting and outputting the argument, and means for inputting the return value [col. 2 lines 45 - 65; col. 3 line 54 - col. 4 line 7; col. 8 lines 12 - 22], and

data being transferred from the means for outputting for identifying the function name of the client logical circuit to the means for inputting for identifying the function name of the server logical circuit [col. 3 line 54 - col. 4 line 7],

the server logical circuit and the client logical circuit each having at least one of the means for outputting the return value and the means for inputting the return value, and data can be transferred from the means for outputting the return value to the means for inputting a return value [col. 2 lines 45 - 65; col. 3 line 54 - col. 4 line 7];

determining whether the function is the at least one function having the at least one function argument [col. 2 lines 45 - 65; col. 3 line 54 - col. 4 line 7; col. 8 lines 12 - 22; col. 12 lines 6 - 43]; and

performing at least one of inputting the function argument, outputting the function argument and outputting the function return value [col. 2 lines 45 - 65; col. 3 line 54 - col. 4 line 7; col. 8 lines 12 - 22; col. 12 lines 6 - 43],

wherein the software object is capable of realizing the interface independently of the server interface circuit by using only the second interface definition language [col. 3 lines 20 – 30; col. 4 lines 8 – 18].

12. Schofield fails to specifically teach defining a hardware interface. However, Silberschatz teaches a server process interacting with a device for a client process [page 470 ¶ 1 – 3] and that objects include hardware objects [page 569 ¶ 1]. This results in the server process acting as an interface to the hardware.

13. As to claim 8, Schofield teaches the server logical circuit and the client logical circuit each having the means for inputting and outputting the argument and data being transferred between the means for inputting and outputting the argument of the server logical circuit and means for inputting and outputting the argument of the client logical circuit [col. 2 lines 45 - 65; col. 3 line 54 - col. 4 line 7].

14. As to claim 5, Schofield teaches a device having an interface and a logical circuit, which defines an interface, using a first interface definition language which is partly common to a second interface definition language directed to a software object and has means for defining a plurality of functions, each function having a function name and a

function return value and at least one function having at least one function argument [col. 2 lines 45 - 65; col. 3 lines 12 - 32, 54 - 65; col. 5 lines 6 - 13; col. 8 lines 12 - 22], comprising:

a client interface circuit for realizing the interface comprises means for outputting for identifying the function name defined by the first interface definition language among the means for outputting for identifying the function name defined by the first interface definition language, means for inputting and outputting the argument, and means for inputting the return value [col. 2 lines 45 - 65; col. 3 line 54 - col. 4 line 7; col. 8 lines 12 - 22];

an argument number detection section for determining whether the function is the at least one function having the at least one function argument [col. 2 lines 32 – 33; col. 9 lines 51 – 53]; and

wherein the software object is capable of realizing the interface independently of a server interface circuit by using only the second interface definition language [col. 3 lines 20 – 30; col. 4 lines 8 – 18].

15. Schofield fails to specifically teach defining a hardware interface or an argument register as claimed. However, Silberschatz teaches a server process interacting with a device for a client process [page 470 ¶ 1 – 3] and that objects include hardware objects [page 569 ¶ 1]. This results in the server process acting as an interface to the hardware. Silberschatz also teaches an argument register for inputting the at least one

function argument and for outputting the at least one function argument [page 404 ¶2; page 405 ¶2].

16. As to claim 6, Schofield teaches:

the connection terminal of the client interface is connected to the server interface circuit or a system bus [Schofield: Fig. 1; col. 5 lines 14 – 23], and

when the connection terminal of the client interface is connected to the server interface circuit, the device connected with the server interface circuit is drivable via the server interface circuit [Schofield: Fig. 1; col. 3 line 66 – col. 4 line 7; col. 5 lines 14 – 23], and

when the connection terminal of the client interface is connected to the system bus, a value of the register within the client interface can be read via a central processing device such that the central processing device can serve in the place of the device connected with the server interface circuit [Schofield: Fig. 1; col. 3 line 66 – col. 4 line 7; col. 5 lines 14 – 23] [Silberschatz: page 402 ¶ 6; page 405 ¶ 2].

17. Schofield fails to specifically teach the register as claimed. However, Silberschatz teaches the client interface circuit has a connection terminal and a register the value is stored in the register [Silberschatz: page 402 ¶ 6; page 405 ¶ 2].

18. As to claim 11, Schofield teaches a device having a hardware interface and a logical circuit comprising a logical operation element, which defines an interface, using an interface definition language having means for defining a function name, an argument, and a return value for each function defined by the function name [col. 2 lines 45 - 65; col. 3 lines 12 - 32, 54 - 65; col. 5 lines 6 - 13; col. 8 lines 12 - 22], wherein

a server interface circuit for realizing the interface comprises:

means for inputting for identifying the function name defined by the interface definition language among the means for inputting for identifying the function name defined by the interface definition language, means for inputting and outputting the argument, and means for outputting the return value [col. 2 lines 45 - 65; col. 3 line 54 - col. 4 line 7; col. 8 lines 12 - 22];

an argument number detection section for determining whether the function is the at least one function having the at least one function argument [col. 2 lines 32 – 33; col. 9 lines 51 – 53]; and

a client interface circuit is capable of realizing the interface independently of the server interface circuit by using another interface definition language [col. 3 lines 20 – 30; col. 4 lines 8 – 18].

19. Schofield fails to specifically teach defining a hardware interface or an argument register as claimed. However, Silberschatz teaches a server process interacting with a device for a client process [page 470 ¶ 1 – 3] and that objects include hardware objects [page 569 ¶ 1]. This results in the server process acting as an interface to the

hardware. Silberschatz also teaches an argument register for inputting the at least one function argument and outputting the at least one function argument [page 404 ¶2; page 405 ¶2].

20. As to claim 4, see the rejection of claim 1.

21. As to claims 9 and 12, see the rejection of claim 2.

22. As to claim 10, see the rejection of claim 3.

23. As to claim 13, see the rejection of claim 6.

24. As to claim 14, see the rejection of claim 8.

Conclusion

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATHAN PRICE whose telephone number is (571)272-4196. The examiner can normally be reached on 6:00am - 2:30pm, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NP

/Li B. Zhen/
Primary Examiner, Art Unit 2194